Mark Scheme

Q1.

Question	Answer	Mark	Mark scheme	Additional guidance
	90	P1	for a process to find the number of batches for at least 2 ingredients, eg 900 ÷ 225 (= 4) **or** 1000 ÷ 110 (= 9.09..) **or** 1000 ÷ 275 (= 3.6.....) **or** 225 ÷ 75 (= 3) **OR** A full method to find the maximum number of biscuits for 1 ingredient eg 900 ÷ 225 × 30 **OR** Amount required for 1 biscuit for at least 2 ingredients eg 225 ÷ 30 (= 7.5) **or** 110 ÷ 30 (= 3.6..) **or** 275 ÷ 30 (= 9.1..) **or** 75 ÷ 30 (= 2.5) **OR** Amount required for 3 batches for at least 2 ingredients eg 225 × 3 (= 675) **or** 110 × 3 (= 330) **or** 275 × 3 (=825) **or** 75 × 3 (= 225)	
		P1	(dep P1) for a complete process to find the maximum number of biscuits after considering at least 3 different ingredients eg "3" × 30	They must use their smallest multiplier after considering at least 3 different ingredients
		A1	(dep P2) cao from fully correct working	90 without working award no marks

(**Q17 1MA1/2F, June 2018**)

Q2.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	600	P1	for starting process to calculate amount of flour eg 60 ÷ 15 (= 4) **or** 3 × 50 (= 150)	4 implied by 200g of sugar
		P1	for complete process eg $\frac{60}{15} \times$ "150"	
		A1	cao	
(b)	2	P1	for process to calculate amount of butter eg $\frac{60}{15} \times 2 \times 50$ (= 400)	
			OR for process to calculate the number of packs of butter needed eg [butter] ÷ 250	[butter] must be clearly stated or calculated, may be seen in part (a)
		A1	cao	2 must not come from incorrect working

(**Q23 1MA1/1F, June 2019**)

Q3.

Question	Answer	Mark	Mark scheme	Additional guidance
	7	P1	for 750 × 9 (=6750)	
			or 1 + 9 (=10)	
			or 750 ÷ 1000 (= 0.75)	
		P1	(dep) for "6750" + 750 (=7500)	
			or for "10" × 750 (=7500)	
			or "0.75" × "1 + 9" (= 7.5)	
		A1	cao	
			Alternative	
		P1	for 100 + 900 (= 1000)	This can be implied by (1 litre of drink =) 100 (ml) of squash and 900 (ml of water)
		P1	(dep) for 750 ÷ 100 (= 7.5)	
		A1	cao	

(**Q15 1MA1/1F, Nov 2020**)

Q4.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	5	P1	for finding the number of oranges required eg 8 ÷ 2 × 30 (=120) oe **or** for finding the number of oranges left from use of at least 2 boxes eg 24 × 2 – 30 (=18) or 24 × 4 – 90 (=6) **or** finds the correct amount of juice possible : from at least two boxes eg 24 + 24 is 2 litres or 24 + 24 + 24 is 4 litres	A build up method with no process shown must use fully correct figures
		P1	for a complete process eg "120" ÷ 24 (=5) oe **or** 30 + 30 + 30 + 30 (=120) **and** 24 + 24 + 24 + 24 + 24 (=120) **or** 24 × 2 – 30 = 18, 18 + 24 = 42, 42 – 30 = 12, 12 + 24 =36, 36 – 30=6, 6 + 24 = 30	May be seen as a mixture of repeated subtraction and addition
		A1	cao with no arithmetic errors seen SCB1 for an answer of 10 supported by working	This mark cannot be awarded if the supporting work has an arithmetic error An answer only and no working is no marks
(b)	9 : 2	M1	for a partially simplified correct ratio eg 126 : 28 or any other equivalent ratio **or** 2 : 9	eg 630:140, 315:70, 63: 14 180:40, 90:20, 45:10, 4.5:1
		A1	cao	

(**Q17 1MA1/2F, Nov 2020**)

Q5.

Question	Answer	Mark	Mark scheme	Additional guidance
	2	P1	for a calculation from within the list $4 \times 12 \div 4 \div 6$ eg 4×12 (= 48) or $12 \div 4$ (= 3) or $6 \div 4$ (=1.5) or $4 \div 6$ (= 0.66..)	
		P1	for a complete process, eg ("48" ÷ 6) ÷ 4 **or** for "$0.\dot{6}$" × 12 ÷ 4	Accept 12 ÷ 6 as a full process
		A1	cao	

(**Q16 1MA1/2F, Nov 2022**)

Q6.

Question	Answer	Mark	Mark scheme	Additional guidance
	BDAC	B2	all correct	
		B1	for at least 2 correct)	

(**Q12 1MA1/2H, June 2018**)

Q7.

Question	Answer	Mark	Mark scheme	Additional guidance
	100g butter 25g sugar 1 egg	P1	for process to find the amount needed of one ingredient for 25 scones	amount needed: 200g butter 875 flour 75 sugar 5 eggs
		P1	for process to find the amount needed for at least three ingredients for 25 scones **or** for process to find the correct amount more for at least two of butter, sugar, eggs	
		P1	for complete process to find amount more for each of butter, sugar, eggs	
		C1	for correct amounts more shown for butter, sugar, eggs	Flour can be excluded, but no incorrect information about flour should be given.

(**Q20 1MA1/3F, Nov 2022**)

Q8.

Question	Answer	Mark	Mark scheme	Additional guidance
	Yes with correct figures	P1	begins to work with proportion eg 20 ÷ 2 (=10) **or** 20 ÷ 5 (=4) **or** 2.38 ÷ 2(=1.19) **or** 5.60 ÷ 5 (=1.12)	Throughout monetary units not required; trailing zeros not needed. Can work in pence throughout
		P1	full process to find the cost of 20 pens **or** 20 folders eg. 20 ÷ 2 × 2.38 (=23.8) **or** 20 ÷ 5 × 5.60 (=22.4) **or** 2.38 ÷ 2 × 20 (=23.8) **or** 5.60 ÷ 5 × 20 (=22.4)	
		P1	full process to find total price **or** amount remaining eg "23.8" + "22.4" (=46.2) **or** 50 − "23.8" − "22.4" (=3.8)	
		C1	Yes with correct figures eg 46.2 **or** 3.8 (left)	'Yes' might be implied from working eg 46.2<50 or a statement that 3.8 is left, but 46.2 alone must also show an answer such as 'Yes' (may be written elsewhere). Working leading to 46.2 must be shown for this mark.

(**Q08 1MA1/3F, Nov 2018**)

Q9.

Question	Answer	Mark	Mark scheme	Additional guidance
	Zurich (supported)	P1	for one process to compare, eg eg Currency conversion, 3.5 × 1.25 (= 4.375) **or** 7.20 ÷ 1.25 (= 5.76) **or** finds 1g in one place £3.50 ÷ 200 (= 0.0175) **or** 7.20 ÷ 360 (= 0.02) **or** finds 200g in Zurich, 7.2 ÷ 360 × 200 (= 4.0) **or** finds 360g in London, 3.5 ÷ 200 × 360 (= 6.30) **or** finds grams per unit cost, 200 ÷ 3.50 (= 57.1..) **or** 360 ÷ 7.20 (= 50)	Accept figures rounded or truncated to 2sf throughout
		P1	for a complete process to find comparable figures in the same currency, eg comparing 200g in £ or francs 3.5 × 1.25 (= 4.375) **and** 7.2 ÷ 360 × 200 (= 4.0) **or** "4.0" ÷ 1.25 (= 3.20) **OR** comparing 360g in £ or francs "6.30" × 1.25 (= 7.875) **or** 3.5 ÷ 200 × 360 (= 6.30) **and** 7.20 ÷ 1.25 (= 5.76) **OR** comparing 1g in £ or francs "0.0175" × 1.25 (= 0.0218…) **and** 7.20 ÷ 360 (= 0.02) **or** £3.50 ÷ 200 (= 0.0175) **and** "0.02" ÷ 1.25 (= 0.016) **OR** comparing quantity per unit cost in £ or francs 200 ÷ 3.50 (= 57.1…) **and** 360 ÷ "5.76" (= 62.5) **or** 200 ÷ "4.375" (= 45.7…) **and** 360 ÷ 7.20 (= 50)	Accept working in pence Ignore incorrect units for P marks Award if this mark implies the previous

		C1	for Zurich supported by correct comparable values, eg 4.3(75 F) **and** 4(.0 F) **or** (£)3.2(0) **or** 7.8(75 F) **or** (£)6.3(0) **and** (£)5.76 **or** 0.021(8… F) **and** 0.02 (F) **or** (£)0.017(5) **and** (£)0.016 **or** 57(.1… g/£) **and** 62(.5 g/£) **or** 45(.7… g/F) **and** 50 (g/F)	Clear indication that bar is better value for money in Zurich supported by correct values for comparison Units not needed but if given must be correct Table with examples below

	London	Zurich
100g	3.5 ÷ 2 = **£1.75** 1.75 × 1.25 = **2.1875 F**	7.2 ÷ 360 = **2.00 F** 2.00 ÷ 1.25 = **£1.60**
200g	**£3.50** 3.5 × 1.25 = **4.375 F**	7.2 ÷ 360 × 200 = **4.0 F** 4.0 ÷ 1.25 = **£3.20**
360g	3.5 ÷ 200 × 360 = **£6.30** 6.30 × 1.25 = **7.875 F**	**7.20 F** 7.20 ÷ 1.25 = **£5.76**
1g	£3.50 ÷ 200 = **£0.0175** × 1.25 = **0.021875 F**	7.20 ÷ 360 = **0.02 F** ÷ 1.25 = **£0.016**
40g	£3.50 ÷ 5 = **£0.70** 0.7 × 1.25 = **0.875 F**	7.20 ÷ 9 = **0.8 F** 0.8 ÷ 1.25 = **£0.64**
By weight	350 ÷ 200 = **1.75 p/g** 350 × 1.25 = 4.375 4.375 ÷ 200 = **0.021875 F/g**	720 ÷ 360 = **0.02 F/g** 720 ÷ 1.25 = 576 576 ÷ 360 = **1.6 p/g**

(**Q03 1MA1/2H, Nov 2024**)

Q10.

Question	Working	Answer	Mark	Notes
		Leila from correct figures	P1	for process to change 70 140 Yen e.g. to £ by 70 140 ÷ 140 (= 501)
			P1	for complete process to find total cost of Andy's tickets, e.g. 70 140 ÷ 140 + 554 (= 1055)
			P1	for process to change 1860 dollars to £, e.g. 1860 × 0.62 (= 1153.2) or a method to change Andy's cost to dollars
			A1	for Leila with comparative figures of 1055 and 1153.2(0) [or 1701.61 dollars; or 147700 & 161448 Yen]

(**Q18 1MA1/2F/M3, Specimen papers**)

Q11.

Question	Working	Answer	Mark	Notes
		4.14	P1	for a first step to the process, e.g. to find the cost of 100 g of strawberries, e.g. 4.10 ÷ 5 (= 0.82), **or** for a process to find 200 g of raspberries and 1.5 kg of strawberries, e.g. 7.46 × 5 (= 37.30), **or** 1 kg of strawberries cost 4.10 × 2 (= 8.10)
			P1	for a process to find the cost of 400 g of raspberries, e.g. 7.46 – (3 × (4.10 ÷ 5)) (= 5) **or** process to find 200 g of both, e.g. (7.46 × 5) + 4.10 (= 41.40)
			P1	for a complete process to find the cost of 200 g of both, e.g. ("5" ÷ 4) × 2 + "0.82" × 2 **or** "41.10" ÷ 10
			A1	cao

(**Q10 1MA1/3F/M3, Specimen papers**)

Q12.

Question	Answer	Mark	Mark scheme	Additional guidance
	Pack of 8 (supported)	P1	for a process (for at least 2 packs) of division of price by quantity eg at least 2 of 180 ÷ 4 (= 45) **or** 320 ÷ 8 (= 40) **or** 600 ÷ 12 (= 50) **OR** any other process that could lead to a comparison of 2 packs eg 180 × 2 (= 360) **or** 320 ÷ 8 (= 40) **and** "40" × 12 (= 480)	Calculations could be in pounds or in pence 4 pack / 8 pack / 12 pack 1: 0.45 / 0.40 / 0.50 2: 0.90 / 0.80 / 1.00 4: **1.80** / 1.60 / 2.00 8: 3.60 / **3.20** / 4.00 12: 5.40 / 4.80 / **6.00** 16: 7.20 / 6.40 / 8.00 24: 10.80 / 9.60 / 12.00
		P1	for a complete process to give values that can be used for comparison of all 3 packs eg 180 ÷ 4 (= 45) **and** 320 ÷ 8 (= 40) **and** 600 ÷ 12 (= 50) **OR** 3.20 ÷ 8 (= 0.40) **and** "0.40" × 4 (= 1.60) **and** "0.40" × 12 (= 4.80) **OR** 1.80 × 6 (= 10.80) **and** 3.20 × 3 (= 9.60) **and** 6.00 × 2 (= 12.00)	Condone incorrect units. Pairwise comparison are possible, but check to see that this allows for a decision to be made. Check process. Assuming correct figures found: Comparisons / Conclusion possible 4 vs 8 / 8 vs 12: Yes 4 vs 8 / 4 vs 12: Yes 4 vs 12 / 8 vs 12: No
		A1	for 'pack of 8' and correct values that can be used to compare all 3 packs	Correct answer with no supportive working scores 0 marks. Do not allow A mark where inconsistent units would prevent comparison e.g. 0.40p and 45p

(**Q16 1MA1/1F, June 2024**)

Q13.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	420	P1	starts process, eg 300 ÷ 5 (= 60) **or** 200 ÷ 2 (= 100) **OR** builds up ratio to at least 300 ml orange juice with one error	
		P1	complete process, eg "60" × 5 + "60" × 2 or 300 : 120	May be seen as "60" × 7 "60" must come from correct method
		A1	cao	
(b)	explanation	C1	explains that it will have no effect with reason, eg because he only needs 120 ml of lemonade because he has no more orange juice to use	

(**Q15 1MA1/1F, Nov 2018**)

Q14.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	200	M1	for $120 \times 5 \div 3$ oe	
		A1	cao	
(b)	statement	C1	Statement that each tap fills at the same rate or that the rate does not change over time Examples **Acceptable responses:** Taps are running at the same speed They (clearly referring to taps) all fill the pool with the same volume of water The amount of water is the same in the same time (again referring to taps) Each tap is doing a fifth of the filling That all taps take equal time to fill the pool All taps produce the same amount of water That the water flow stays at the same rate over the whole time. **Non acceptable responses** It will take more time because there are less taps The less taps used the longer it takes to fill the pool That 1 tap can take up to 24 mins each 3 taps will take longer to fill the pool	Any statement referring to the same amount of water flowing from each tap is acceptable.

(**Q23 1MA1/1F, Nov 2018**)

Q15.

Question	Answer	Mark	Mark scheme	Additional guidance
	12.5	P1	starts to process the problem, eg assigns lengths of sides to squares **A** and **B** in the ratio 1 : 2 oe **and** calculates at least one area **OR** fits 4 of square **A** into square **B** **OR** for ratio of areas of squares eg 1 : 4 oe	May be seen in a diagram
		P1	for process to express relationship between area of shaded triangle and area of square B, eg 1 : 8, $\frac{1}{8}$ **OR** 0.125	May be seen in a diagram with figure given
		A1	for 12.5 oe	

(**Q20 1MA1/1F, June 2019**)

Q16.

Question	Answer	Mark	Mark scheme	Additional guidance
	180.9	P1	for starting to work with proportion eg. 60 ÷ 100 (= 0.6) or 150 ÷ 100 (= 1.5) **OR** 100 ÷ 60 (= 1.66..) or 100 ÷ 150 (= 0.66..) **OR** 84 ÷ 100 (= 0.84) or 87 ÷ 100 (= 0.87) or 84 ÷ 10 (= 8.4) or 87 ÷ 10 (= 8.7) or 84 ÷ 2 (= 42) or 87 ÷ 2 (= 43.5) **OR** 100 ÷ 84 (= 1.19..) or 100 ÷ 87 (= 1.14..)	
		P1	for a complete process to work out the calories in either item eg. "0.6" × 84 (= 50.4) or "1.5" × 87 (= 130.5) **OR** 84 ÷ "1.66.." (= 50.4) or 87 ÷ "0.66.." (= 130.5) **OR** "0.84" × 60 (= 50.4) or "0.87" × 150 (= 130.5) or "8.4" × 6 (= 50.4) or "8.7" × 15 (= 130.5) or "42" × 6 ÷ 5 (= 50.4) or "43.5" × 3 (= 130.5) **OR** 60 ÷ "1.19.." (= 50.4) or 150 ÷ "1.14.." (= 130.5)	
		P1	(dep on P2) for a complete process to find total number of calories in the breakfast, eg. "50.4" + "130.5"	
		A1	for 180.9 or 181	

(**Q17 1MA1/2F, June 2019**)

Q17.

Question	Answer	Mark	Mark scheme	Additional guidance
	10	P1	for a process to start to solve the problem eg 6 × 9 (= 54) machine days needed or 12 (machine days used in first 3 days) or 42 (machine days needed after first 3 days) or 6 (machine days not used in first 3 days) or 3 + 4 + 5 equivalent to 2 days with 6 machines or has used 48 machine days in first 9 days	 eg 3 + 4 + 5 (= 12) eg 6 ×9 – 12 (= 42) eg 3 + 2 + 1 = 6 eg 12 ÷ 6 = 2
		P1	for "42" ÷ 6 (= 7) (more days needed) or 3 days – 2 (equivalent) days (= 1) extra day needed to make up for the days not used	
		A1	cao	

(**Q09 1MA1/3H, June 2019**)

Q18.

Question	Answer	Mark	Mark scheme	Additional guidance
	6	M1	for 720 ÷ 40 (= 18) **or** 720 ÷ 30 (= 24)	
		M1	for a complete process eg (720 ÷ 30) – (720 ÷ 40) **or** "18" × 4/3 – "18" **or** "24" – "24" × 3/4	
		A1	cao	

(**Q08 1MA1/2H, Nov 2019**)

Q19.

Question	Answer	Mark	Mark scheme	Additional guidance
	40	P1	for a process to find the maximum number of batches for one ingredient, eg 500 ÷ 175 (= 2.85...) **or** 300 ÷ 75 (= 4) **or** 625 ÷ 250 (= 2.5) **OR** for a process to find the amount of one ingredient for 1 biscuit, eg 175 ÷ 16 (= 10.9375) **or** 75 ÷ 16 (= 4.6875) **or** 250 ÷ 16 (= 15.625) **OR** for multiples of 175 : 75 : 250, eg 175 × 2 (= 350) **and** 75 × 2 (= 150) **and** 250 × 2 (= 500)	Figures may be truncated or rounded
		P1	(dep P1) identifies flour as the limiting factor **OR** for a process to find the maximum number of biscuits for one ingredient, eg butter: "2.85" × 16 **or** 500 ÷ "10.9.." oe (= 45.7...) sugar: "4" × 16 **or** 300 ÷ "4.6.." oe (= 64) flour: "2.5" × 16 **or** 625 ÷ "15.625" oe (= 40)	
		A1	cao SCB2 for answer of 32	

(**Q19 1MA1/2F, Nov 2019**)

Q20.

Question	Answer	Mark	Mark scheme	Additional guidance
	6	M1	for 720 ÷ 40 (= 18) **or** 720 ÷ 30 (= 24)	
		M1	for a complete process eg (720 ÷ 30) – (720 ÷ 40) **or** "18" × 4/3 – "18" **or** "24" – "24" × 3/4	
		A1	cao	

(**Q28 1MA1/2F, Nov 2019**)

Q21.

Question	Answer	Mark	Mark scheme
(a)	42	P1	for a correct start to the process by finding the number of batches for one ingredient, eg 500 ÷ 125 (= 4) **or** 700 ÷ 200 (= 3.5 or 3) **or** 250 ÷ 50 (= 5) **OR** for a correct start to building up number of batches of **all** ingredients, eg. (24 biscuits or 2 batches =) 250 (butter), 400 (flour) and 100 (sugar) **OR** for a start to the process by finding the amount of one ingredient needed to make 1 biscuit, eg 125 ÷ 12 (= $10\frac{5}{12}$) **or** 200 ÷ 12 (= $16\frac{8}{12}$) **or** 50 ÷ 12 (= $4\frac{2}{12}$)
		P1	for a correct process to find the number of batches for all 3 ingredients, eg 500 ÷ 125 (= 4) **and** 700 ÷ 200 (= 3.5 or 3) **and** 250 ÷ 50 (= 5) **OR** for a build-up process reaching a point where there is not enough of one ingredient, eg. (36 biscuits or 3 batches =) 375 (butter), 600 (flour) and 150 (sugar) **or** (48 biscuits or 4 batches =) 500 (butter), 800 (flour) and 200 (sugar) **OR** for a correct process to find the amount of each ingredient needed to make 1 biscuit, eg 125 ÷ 12 (= $10\frac{5}{12}$) **and** 200 ÷ 12 (= $16\frac{8}{12}$) **and** 50 ÷ 12 (= $4\frac{2}{12}$)

Question	Answer	Mark	Mark scheme
		P1	(dep on P2) for a process to find the number of biscuits, eg "4" × 12 (= 48) **or** "3.5" × 12 (= 42) **or** "3" × 12 (= 36) **or** "5" × 12 (= 60) **OR** (dep on P2) for (700 – 600) ÷ 200 × 12 (= 6) or "3" × 12 (= 36) **OR** (dep on P2) for a process to find the number of biscuits, eg 500 ÷ "$10\frac{5}{12}$" (= 48) **or** 700 ÷ "$16\frac{8}{12}$" (= 42) **or** 250 ÷ "$4\frac{2}{12}$" (= 60)
		A1	cao
(b)	Explanation	C1	(dep on P3) for a correct explanation, ft (a) for the critical ingredient identified **Acceptable examples** No, since flour is the critical value No, since flour gives you the least number of batches No since she needs more flour to make more biscuits. **Not acceptable examples** Yes … No (no reason given) No, since we would need more of the other ingredients too

(**Q17 1MA1/1F, Nov 2021**)

Q22.

Question	Answer	Mark	Mark scheme	Additional guidance
(a)	4	P1 A1	12 × 5 ÷ 15 cao	
(b)	Statement	C1	**Acceptable examples** it could take more time it could take less time it could take more or less time it would take longer if they worked at a slower rate **Not acceptable examples** the time will be less as there are more people if the rate at which the 15 people work changes it would have taken longer it would take less time	

(Q09 1MA1/3H, Nov 2021)

Q23.

Question	Answer	Mark	Mark scheme	Additional guidance
	100	M1 A1	M1 for a correct first step, eg 25÷10 (= 2.5) **or** 40 ÷ 10 (= 4) **or** 20 (scones) = 40 × 2 (= 80g) **or** 5 (scones) = 40 ÷ 2 (= 20g) cao	Multiplier may be seen as evidence of this mark

(Q18 1MA1/1F, June 2022)

Q24.

Question	Answer	Mark	Mark scheme	Additional guidance
	Shown	M1 M1 C1	for 6 × 14.5 (= 87) **or** 13 × 7 (= 91) **or** 13 ÷ 6 (= 2.16(666…)) for "87" ÷ 7 (= 12.428...) **or** "87" ÷ 13 (= 6.692…) **or** 6 × 14.5 (= 87) **and** 13 × 7 (= 91) **or** 14.5 ÷ "2.16" (= 6.692...) (dep M2) for 12.(428…) (workers) **or** 6.69(2…) (days) **or** 87 **and** 91	May work in hours or other units of time Accept figure rounded or truncated to 1dp Figures must be correct and supported by working. Accept value in range 6.69 to 6.72 for number of days

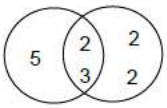
(Q11 1MA1/2H, June 2022)

Q25.

Question	Answer	Mark	Mark scheme	Additional guidance
	750	M1 A1	for 250 × (60 ÷ 20) oe or 150 × (60 ÷ 20) oe or 100 × (60 ÷ 20) oe cao	

(Q16 1MA1/1F, June 2023)

Q26.

Question	Answer	Mark	Mark scheme	Additional guidance
	4 packs and 5 boxes,	P1	for start of a process to find common multiples of 30 and 24, eg writes down at least 3 multiples of 30 and at least 3 multiples of 24 **or** draws factor trees for both 30 and 24 with no more than 1 error in total **or** draws a correct Venn diagram	30, 60, 90, 120, 150, 180, 210, 240 … 24, 48, 72, 96, 120, 144, 168, 192, 216, 240, … Condone the inclusion of 1 in factor tress or Venn diagrams for this mark 
	or any multiple	P1	for identifying a common multiple eg 120 or 240 or $5 \times 3 \times 2 \times 2 \times 2$ oe	May use any common multiple, 120, 240, 360...
		A1	for 4 packs and 5 boxes or any multiple of this pairing eg 8, 10	Award 0 marks for a correct answer without correct supportive working.

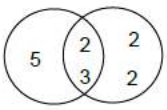
(Q24 1MA1/3F, Nov 2023)

Q27.

Question	Answer	Mark	Mark scheme	Additional guidance
	20	M1	for $30 \times 4 \div 6$ oe	
		A1	cao	

(Q25 1MA1/3F, Nov 2023)

Q28.

Question	Answer	Mark	Mark scheme	Additional guidance
	4 packs and 5 boxes,	P1	for start of a process to find common multiples of 30 and 24, eg writes down at least 3 multiples of 30 and at least 3 multiples of 24 **or** draws factor trees for both 30 and 24 with no more than 1 error in total **or** draws a correct Venn diagram	30, 60, 90, 120, 150, 180, 210, 240 … 24, 48, 72, 96, 120, 144, 168, 192, 216, 240, … Condone the inclusion of 1 in factor tress or Venn diagrams for this mark 
		P1	for identifying a common multiple eg 120 or 240 or $5 \times 3 \times 2 \times 2 \times 2$ oe	May use any common multiple, 120, 240, 360...
		A1	for 4 packs and 5 boxes or any multiple of this pairing eg 8, 10	Award 0 marks for a correct answer without correct supportive working.

(Q05 1MA1/3H, Nov 2023)

Q29.

Question	Answer	Mark	Mark scheme	Additional guidance
	20	M1 A1	for $30 \times 4 \div 6$ oe cao	

(**Q06 1MA1/3H, Nov 2023**)

Q30.

Question	Answer	Mark	Mark scheme	Additional guidance
	Yes **and** 750	P1	for beginning to work with proportion eg $60 \div 20$ (= 3) **or** $900 - 250$ (= 650) **or** $250 \div 20$ (= 12.5 oe) **or** $900 \div 60$ (= 15)	Sugar = 600 (g) or Small eggs = 6 (eggs) implies P1
		P1	for a complete process to see if there is enough peanut butter eg "3" × 250 (= 750) **or** $900 \div$ "3" (= 300) **or** "650" – 250 – 250 (= 150) oe **or** "12.5" × 60 (= 750) **or** for a complete process to work out how many cookies he can make eg $900 \div$ "12.5" (= 72) **or** for process to work out how much peanut butter is needed for one cookie and how much peanut butter he can use per cookie eg $250 \div 20$ (= 12.5 oe) **and** $900 \div 60$ (= 15)	Sight of 750 gains P2
		C1	Yes **and** accurate figure to compare eg 750 (g needed) **or** 150 (g over) **or** 300 (g per batch available) **or** 72 (cookies can be made) **or** 12.5 (g peanut butter per cookie needed) **and** 15 (g peanut butter per cookie available)	

(**Q10 1MA1/1F, Nov 2023**)

Q31.

Question	Answer	Mark	Mark scheme	Additional guidance
	180, 300, 75	M1	for complete method to find amount needed for 30 biscuits for one ingredient, eg 120 ÷ 20 × 30 (= 180) oe eg 120 + 120 ÷ 2 (= 180) **or** for method to find a scale factor, eg 30 ÷ 20 (= 1.5 oe) **or** for method to find amount needed for 10 biscuits for at least 2 ingredients eg 120 ÷ 2 (= 60) or 200 ÷ 2 (= 100) or 50 ÷ 2 (= 25) **or** for method to find amount needed for 1 biscuit for at least 2 ingredients eg 120 ÷ 20 (= 6) or 200 ÷ 20 (= 10) or 50 ÷ 20 (= 2.5)	
		M1	for complete method to find amount needed for 30 biscuits for at least 2 ingredients, eg at least 2 of 120 ÷ 20 × 30 (= 180) or 200 ÷ 20 × 30 (= 300) or 50 ÷ 20 × 30 (= 75) oe **or** eg at least 2 of 120 × "1.5" (= 180) or 200 × "1.5" (= 300) or 50 × "1.5" (= 75) **or** eg at least 2 of 120 + "60" (= 180) or 200 + "100" (= 300) or 50 + "25" (= 75) **or** eg at least 2 of 30 × "6" (= 180) or 30 × "10" (= 300) or 30 × "2.5" (= 75)	
		A1	for all quantities correct	

(**Q17 1MA1/3F, June 2024**)

Q32.

Question	Answer	Mark	Mark scheme	Additional guidance
	3.3(0)	P1	for a process to find cost of 1 kg of carrots, eg 1.80 ÷ 3 (= 0.60)	Could work in £ or p for P marks Condone incorrect money notation
		P1	for a start to a process to find cost of 1kg of potatoes, eg 3.45 – 2 × "0.60" (= 2.25) **or** (1.80 + 3.45) ÷ 5 (= 1.05) **OR** for a process to find the cost of 4 kg of carrots, eg "0.60" × 4 (= 2.40)	1 kg of potatoes = (£)0.45 or 45p
		P1	(dep on P2) for a complete process to find the cost of 4 kg of carrots **and** the cost of 2 kg of potatoes, eg "0.60" × 4 (= 2.40) **and** ("2.25" ÷ 5) × 2 (= 0.90) **or** "0.60" × 4 (= 2.40) **and** ("1.05 – "0.60") × 2 (= 0.90)	
		A1	cao	Award 0 marks for a correct answer with no supportive working.

(**Q14 1MA1/1F, Nov 2021**)

Q33.

Question	Answer	Mark	Mark scheme	Additional guidance
	168	P1	for working with ratio to find the amount for C or D eg. 1.5 × 2 (=3) or (A, B, C, D =) 2 , 7 , 3 , 3 oe **OR** for suitable expressions linking A with C or D, eg. A = x, C = 1.5x	
		P1	for "2 + 3 + 3 + 7" (=15) **OR** adds 4 suitable expressions, eg. "x + 3.5x + 1.5x + 1.5x" (= 7.5x)	
		P1	for a complete process to find the amount of money eg. 360 ÷ "15"× 7 **OR** 360 ÷ "7.5" × 3.5	
		A1	cao	

(**Q26 1MA1/2F, June 2019**)

Q34.

Question	Answer	Mark	Mark scheme	Additional guidance
	36	M1	for method to find cost of 1 kg, eg 54 ÷ 3 (= 18) or 54 ÷ 3 × 2 oe	
		A1	cao	

(Q08 1MA1/1F, June 2018)

Q35.

Question	Working	Answer	Mark	Notes
(a)		20	M1 A1	for complete proportion statement, e.g. 12 × 5 ÷ 3 oe cao
(b)i		statement	C1	e.g. work rate of each man is the same / does not change over time
ii		statement	C1	e.g. if rate slower it takes longer / rate faster takes less time i.e. needs to refer to how the rate changes

(Q05 1MA1/1H/M2, Specimen papers)

Q36.

Question	Working	Answer	Mark	Notes
(a)		50g flour 80g syrup 1 egg	P1	process to find the amount of one Ingredient for 60 gingerbread men, e.g. 350 × (60 ÷ 20) (= 1050) **or** 10 × (60 ÷ 20) (= 30) **or** 100 × (60 ÷ 20) (= 300) **or** 175 × (60 ÷ 20) (= 525) **or** 60 × (60 ÷ 20) (= 180) **or** 1 × (60 ÷ 20) (= 3)
			P1	(dep on P1) for correct processes to find at least 3 ingredients for 60 gingerbread men
			P1	(dep on P2) complete process to find extra amount needed for 3 ingredients,, e.g. 3 of : "1050" – 1000, "30" – 200, "300" – 500, "525" – 600, "180" – 100, "3" – 2
			A1	correct amounts for each ingredient
(b)		Explanation	C1	correct explanation that cannot buy half an egg so have to round up and buy more

(Q15 1MA1/2F/M2, Specimen papers)

Q37.

Question	Working	Answer	Notes
	$16 \div 4$ $\frac{1\times4}{2}=2$ or $\frac{1}{2}\times\frac{1}{4}=\frac{1}{8}$ $\frac{2\times4}{2}=4$ or $\frac{1}{2}\times\frac{1}{2}=\frac{1}{4}$ $\frac{1\times4}{2}+\frac{2\times4}{2}=6$ or $\frac{1}{2}\times\frac{1}{4}+\frac{1}{2}\times\frac{1}{2}=\frac{3}{8}$ $16-6=10$ or $1-\frac{3}{8}=\frac{5}{8}$	$\frac{5}{8}$	P1 Using side lengths of 4 P1 Method to find fraction or area for one unshaded triangle P1 Method to complete fraction or area for total unshaded region P1 Method to find total fraction or area for shaded region A1 for $\frac{5}{8}$ oe or 0.625

(**Q02 1MA1/1H/S2, Specimen papers**)

Q38.

Question	Working	Answer	Mark	Notes
		75	P1 P1 A1	for $90 \div 6$ (= 15) or for connecting *AB* and *BC* by ratio or proportion eg 5 and 1 on the diagram for a complete method to find the length *AB* eg $90 \div 6 \times 5$ (= 75) cao

(**Q10 1MA1/3F, June 2017**)

Q39.

Paper 1MA1: 2F			
Question	**Working**	**Answer**	**Notes**
		Jardins of Paris	P1 correct process to convert one price to another currency, eg $1980 \div 1.34$ P1 for a complete process leading to 3 prices in the same currency C1 for 3 correct and consistent results and a correct comparison made.

(**Q21 1MA1/2F/S1, Specimen papers**)

Q40.

Question	Working	Answer	Mark	Notes
2		New York (supported)	P1	for changing between £ and $, eg 1.089×1.46 (= 1.58(9.)) or 2.83÷1.46 (= 1.93(8.)) or between litres and gallons, eg 1.089×3.785 (= 4.12(1.)) or 2.83÷3.785 (= 0.74(7.))
			P1	for a complete process to give values that can be used for comparison, eg "1.938..." ÷ 3.785 (= 0.51(2.)) **or** "1.589..."...× 3.785 (= 6.01(7.)) **or** 1.089 × 3.785 = (4.12(1.)) and 2.83 ÷ 1.46 (= 1.93(8.))
			C1	for New York and correct comparative values

(Q02 1MA1/3H, Nov 2017)

Q41.

Question	Working		Answer	Mark	Notes
(a)	$	£	2975.79	P1	for process to find total room cost eg 196 × 14 (= 2744)
	5	2.631...		P1	for process to find total wifi cost eg 5 × 12 (= 60)
	60	31.578...		P1	for using exchange rate appropriately (could be used earlier in the question), eg "2804" ÷ 1.90 (= (£)1475.789...) or 1500 × 1.90 (= ($)2850)
	196	103.157...			
	2744	1444.21...		P1	for process to find the total cost in £, eg "1475.79(..)" + 1500 or in $, eg "2850" + "2804" (= 5654)
	2804	1475.789...			
				A1	2975 to 2976
(b)			Statement	C1	Statement about the total price rising May comment that flights will not change but the rest will rise

(Q14 1MA1/3F, June 2017)

Q42.

Question	Working	Answer	Mark	Notes
		65.60	P1	for start in using inverse proportionality, eg 5 × 4.5 (= 22.5) or $4.5 = \frac{k}{5}$ or $5 \times 4.5 \times 60$ (= 1350) or $\frac{5}{3}$ or $\frac{3}{5}$
			P1	for process to find number of hours for each cleaner today, eg $\frac{22.5}{3}$ (= 7.5)
			A1	for 65.6(0) (SC B2 for 61.5(0))

(Q09 1MA1/2H, Nov 2017)

Q43.

Question	Working	Answer	Notes
		5.25 litres	P1 for start to process eg. 5 ÷ 2 (=2.5) P1 for complete process eg. 5000 + 2.5×100 A1 or 5250 ml

(**Q06 1MA1/1F/S2, Specimen papers**)

Q44.

Question	Working	Answer	Mark	Notes
		160	P1	process to find the cost of paprika, e.g. 210 ÷ 7 (= 30)
			P1	process to find the cost of sage, e.g. (290 – (3 × (210 ÷ 7))) ÷ 4 (= 50)
			P1	(dep P2) process to find the required cost , e.g. 2 × "30" + 2 × "50" or 2 × ("30" + "50"
			A1	cao

(**Q15 1MA1/1F/M2, Specimen papers**)

Q45.

Question	Working	Answer	Notes
		15	M1 For start to scaling process eg 12÷8 or 10÷8 A1 15

(**Q08 1MA1/1F/S2, Specimen papers**)

Q46.

Question	Working	Answer	Mark	Notes
		1110	M1	method to find the weight of 1 tin of soup e.g. 1750 ÷ 5 (=350)
			M1	method to find the weight of 3 packets of soup e.g. 1490 – (4 × "350") (=90)
			M1	method to find the weight of 3 tins and 2 packets e.g. 3 × "350" + "90" ÷ 3 × 2
			A1	cao

(**Q17 1MA1/1F, June 2017**)

Q47.

Question		Working	Answer	Mark	Notes
			6	3	P1 for a process to start to solve the problem, e.g. 8×5 (= 40) machine days, **and** "40" – (4×2) (= 32) machine days left **or** $\frac{1}{5}$ complete **or** $\frac{4}{5}$ left P1 For a complete process to solve the problem, e.g. $32 \div 8$ (= 4) and $2 +$ "4" **or** $\frac{4}{5} \times 5$ A1 cao

(**Q09 1MA1/1H/M1, Specimen papers**)

Q48.

Paper 1MA1: 2F			
Question	Working	Answer	Notes
		720	P1 attempt to find the maximum biscuits for one of the ingredients e.g. 5000 ÷ 15 (= 33.3..) or 2500 ÷ 75 (= 33.3..) or 3000 ÷ 100 (= 30) or 320 ÷10 (= 32) P1 for identifying butter as the limiting factor or 30×24 (= 720) seen A1

(**Q19 1MA1/2F/N, Specimen papers**)

Q49.

Question	Working	Answer	Notes
(a)		10	P1 for process to find number of people that Ellie can make mousse for using the sugar available P1 for process to find number of people that Ellie can make mousse for using the chocolate available A1 for correct answer with supportive working
(b)		correct explanation	C1 for "can only make mousse for 6 people" oe

(**Q15 1MA1/2F/S2, Specimen papers**)

Q50.

Paper 1MA1: 2F			
Question	**Working**	**Answer**	**Notes**
		butter = 1080 flour = 1575 sugar = 450 mincemeat = 1260	M1 for correct use of a correct scale factor, 72 ÷ 16 (= 4.5) on at least one ingredient M1 for complete method applied to all ingredients A1 correct amounts correctly converted to kg

(Q18 1MA1/2F/S1, Specimen papers)

Q51.

Question		Working	Answer	Mark	Notes
			125, 250, 100, 125, 5	3	M1 for ÷20 × 50 oe or 50 ÷ 20 (= 2.5) A1 for 2 or 3 correct A1 cao

(Q16 1MA1/3F/M1, Specimen papers)

Q52.

Question	Working	Answer	Mark	Notes
		180, 210, 375, 3	M1	for $\frac{24}{16}$ **or** 1.5 **or** $\frac{16}{24}$ oe **or** 0.5 of any figure in the recipe calculated **or** amount of any ingredient for 1 flapjack or 3 (tablespoons)
			M1	for method to scale at least one ingredient in grams eg 120 × 1.5 **or** 140 × 1.5 **or** 250 × 1.5
			A1	for all quantities correct

(Q19 1MA1/1F, Nov 2017)

Q53.

Paper 1MA1: 3F				
Question	**Working**	**Answer**	**Notes**	
	2000 ÷ 5 = 400 2080 − 3 × 400 = 880 880 ÷ 4	400, 220	B1 P1 P1 A1	for 400 (weight of beans) Process to find total weight of 4 jars of jam Process to find weight of 1 jar of jam

(Q14 1MA1/3F/N, Specimen papers)

Q54.

Question	Answer	Mark	Mark scheme	Additional guidance
	2 bags of stone	P2	for a complete process to work out how many bags of each material is required eg 180 ÷ 25 (= 7.2 or 8), 375 ÷ 22.5 (= 16.6.. or 17), 1080 ÷ 50 (= 21.6 or 22) **or** a complete process to work out the total weight of each element that he has eg 25 × 10 (= 250), 20 × 22.5 (= 450), 50 × 20 (= 1000)	The correct figures do not need to be seen to award the process marks
		(P1	for a correct start to the process, eg for at least one correct calculation	
		C1	correct conclusion eg 2 bags of stone, with no incorrect working	

(Q17 1MA1/2F, Nov 2018)

Q55.

Paper 1MA1: 3F				
Question	**Working**	**Answer**	**Notes**	
(a)	550 × 3.5601	1958	M1 A1	550 × 3.5601
(b)	210 ÷7 × 2 = 30 × 2 Or 60 ÷2 = 30 and 30 × 7 = 210	Shown	M1 C1	For correct method to convert cost in UK to lira or vice versa, using Asif's approximation Shown with correct calculations
(c)		Correct evaluation	C1	For an evaluation eg. It is a sensible start to the method because he can do the calculations without a calculator and 3.5 lira to the £ is a good approximation

(Q19 1MA1/3F/N, Specimen papers)

Q56.

Question	Working	Answer	Mark	Notes
	Complete methods 3.60 ÷ 2.5 × 3.5 or 3.60 ÷ 5 × 7 or 3.5 ÷ (2.5 ÷ 3.6) or $\frac{3.5}{2.5} \times 3.6$ or $3.6 \div \frac{2.5}{3.5}$	5.04	M1 A1	for a correct first step to find the cost of a unit of weight (eg. 1 kg or 0.5 kg) eg 3.60 ÷ 2.5 (= 1.44) or 3.60 ÷ 5 (= 0.72) or a complete alternative method for 5.04 (accept £5.04p)

(Q12 1MA1/3F, Nov 2017)

Q57.

Question	Answer	Mark	Mark scheme	Additional guidance
	24	M1	for a complete method eg 6 × 2 × 2 or sight of 6, 2, 2 ready for calculation, or with the wrong operation	Could be seen as two separate calculations
		A1	cao	SC:B1 for a answer of 1.5 oe

(**Q07 1MA1/3F, June 2018**)